

## Abstract of the Disclosure

Method and apparatus for detection of the presence of a train wheel on a train track that overcomes problems associated with previously known detectors. The invention includes a method for detecting the presence of a train wheel on a train track. The method includes the steps of : a) generating an electromagnetic field using at least one electromagnetic field generator sensor including a resonance tank circuit; b) providing an electrical charge to the tank circuit when amplitude of the frequency drops below a predetermined level by using a charging circuit; c) providing a feed back from the tank circuit permitting the charging circuit to determine when the amplitude of the frequency has dropped below the predetermined level; d) holding the electromagnetic field generator proximate a train rail so that a train wheel causes a drop in the frequency amplitude below a second threshold level when a train wheel partially affects the field, and so that there frequency amplitude below a third threshold level below the second threshold level when the train wheel is located so that it fully affects the field; e) detecting when there is an increase in frequency amplitude above a first threshold level indicating that the electromagnetic field generator is no longer in a proper position relative to the train rail; f) detecting when there is a change in frequency amplitude relative to the threshold levels; and g) compensating for drift of frequency amplitude between the first and second threshold levels and ceasing such compensating when the frequency amplitude is above the first threshold level or below the second threshold level. The method includes all uses of the detector and apparatus as previously described. The invention further includes apparatus for practicing the method of the invention.